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APPARATUS AND METHOD OF COUPLING HOME
NETWORK SIGNALS BETWEEN AN ANALOG PHONE
LINE AND A DIGITAL BUS

ABSTRACT OF THE DISCLOSURE

An arrangement for implementing a network in an ISDN-based customer premises having a four-wire ISDN S0 bus. The ISDN-based customer premises includes a Network Termination Basic Access (NTBA) that interfaces between the residential customer premises and the public switched telephone network by mapping the two-wire ISDN signal onto the four-wire bus. A low pass filter is added to the two-wire send path to eliminate high frequency noise caused by harmonic reflections of the ISDN-based signals on the four-wire bus. Filters are also coupled between each ISDN device and the four-wire S0 bus, ensuring that the four-wire S0 bus is isolated from capacitive influences of the ISDN devices to optimize transmission of the higher frequency home network signals. The two-wire home network signals are also split by S0 transformers for transmission on the two-wire send path and the two-wire receive path of the four-wire S0 bus, effectively increasing the transmission wire radius for improved reception of the home network signals. A high pass filter is coupled between the four-wire S0 bus and analog telephone lines, enabling network stations coupled to the analog telephone lines to exchange home network signals with network stations coupled to the four-wire bus.